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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/807,693

03/24/2004

Hiroshi Nakata

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EXAMINER

ROE, JESSEE RANDALL

ART UNIT

PAPER NUMBER

1742

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|-----------|---------------|
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3 MONTHS

03/19/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/807,693

Applicant(s)

NAKATA ET AL.

Examiner

Jessee Roe

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5,7,17,19,21 and 23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5,7,17,19,21 and 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Status of Claims

Claims 1, 3, 5, 7, 17, 19, 21 and 23 remain for examination wherein claims 1, 3, 5, 7, 17, 19, 21 and 23 are amended and claims 2, 4, 6, 8-16, 18, 20, 22 and 24 are canceled.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 18 December 2006 has been entered.

Priority

Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 119 (b) (3) as follows: A certified English Translation of JP 2003-089125, JP 2003-090069, and/or JP 2003-417881 is/are required to receive those effective filing date(s)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 5, 7, 17, 19, 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toru et al. (JP 2004-84019 A) in view of Tosaka et al. (US 6,110,299).

In regards to claims 1, Toru et al. (JP '019) disclose a hot rolled steel plate (strip) inherently having superior low temperature toughness and weldability (0006, 0011-0024) as shown in the table below (col. 14, lines 1-27).

| Element | From Instant Claims (weight percent) | Toru et al. ('019) (weight percent) | Overlapping value |
|---------|---|--|----------------------|
| C | about 0.005 – about 0.04 | 0.005 – 0.025 | 0.005 – 0.025 |
| Si | about 0.05 – about 0.30 | 0.05 – 0.50 | 0.05 – about 0.30 |
| Mn | about 0.50 – about 2.0 | 1.5 – 3.0 | 1.5 – about 2.0 |
| Al | about 0.001 – about 0.10 | 0.01 – 0.08 | 0.01 – 0.08 |
| Nb | about 0.001 – about 0.1 | 0.005 – 0.08 | 0.005 – 0.08 |
| V | about 0.001 – about 0.1 | 0.003 – 0.008 | 0.003 – 0.008 |
| Ti | about 0.001 – about 0.1 | 0.003 – 0.05 | 0.003 – 0.05 |
| Cu | 0 – about 0.50 | 0.05 – 2.0 | 0.05 – about 0.50 |
| Ni | 0 – about 0.50 | 0.05 – 2.0 | 0.05 – about 0.50 |
| Mo | 0 – about 0.50 | 0.05 – 1.00 | 0.05 – about 0.50 |
| Fe | balance | balance | balance |

In regards to the limitation that the steel would be composed of bainitic ferrite of 95 percent by volume or more, Toru et al. (JP '019) disclose wherein the steel would be composed of 90 percent by area or more bainitic ferrite (0006), thereby overlapping the

claimed range and establishing a prima facie case of obviousness. See MPEP 2144.05 I. It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the desired amount of bainitic ferrite from the range disclosed by Toru et al. (JP '019) because Toru et al. (JP '019) teach the same utility throughout the disclosed range.

The Examiner also notes that the disclosed amounts of carbon, silicon, manganese, aluminum, niobium, vanadium, titanium, copper, nickel and molybdenum of the hot-rolled steel strip disclosed by Toru et al. (JP '019) overlaps with the composition of the claimed invention. Therefore, a prima facie case of obviousness exists. See MPEP 2144.05 I.

With respect to the limitation that the steel would be "for a high strength electric resistance welding pipe", the Examiner considers this a recitation of intended use which is not given patentable weight.

With respect to the limitations regarding phosphorus, sulfur and nitrogen, Toru et al. (JP '019) do not specify that it is necessary to contain any phosphorus, sulfur, or nitrogen in the steel. Therefore, the steel of Toru et al. (JP '019) would inherently have the claimed amounts of phosphorus, sulfur, and nitrogen.

With respect to the limitation that the steel would have a yield strength of at least 560 MPa, Toru et al. (JP '019) discloses wherein the steel would have a tensile strength exceeding 980 MPa (0011 & 0032).

With respect to the compositional formula in claim 1, it is well settled that there is no invention in the discovery of a general formula if it covers a composition described in

the prior art, *In re Cooper and Foley* 1943 C.D. 357, 553 O.G. 177., 57 USPQ 117, *Takalatwalla v. Marburg*, 620 O.G. 685, 1949 C.D. 77, and *In re Pilling*, 403 O.G. 513, 44 F(2) 878, 1931 C.D. 75. In the absence of evidence to the contrary, the selection of the proportions of elements would appear to require no more than routine investigation by those ordinary skilled in the art. *In re Austin, et al.*, 149 USPQ 685,688. It would have been obvious to one of ordinary skill in the art to select alloys within the claimed compositional ranges from the compositional ranges disclosed by Toru et al. (JP '019) because Toru et al. (JP '019) teach the same utility throughout the disclosed ranges.

With respect to the claimed ratio of Nb, the Examiner asserts that the steel of Toru et al. (JP '019) would inherently have the claimed ratio because Toru et al. (JP '019) teaches stopping the cooling rate after hot rolling at below 400°C.

Toru et al. (JP '019) disclose a hot rolled steel as shown above, but Toru et al. (JP '019) do not specify wherein the steel would be coiled.

Tosaka et al. ('299) disclose a substantially similar steel alloy wherein the steel would be coiled at 750°C or less (col. 9, lines 19-30). Coiling at 750°C or less would allow for uniform properties in the longitudinal direction (col. 9, lines 19-30).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to coil the steel at 750°C or less, as disclosed by Tosaka et al. ('299), after cooling the hot rolled steel, as disclosed by Toru et al. (JP '019), in order to obtain uniform properties in the longitudinal direction, as disclosed by Tosaka et al. ('299) (col. 9, lines 19-30).

In regards to claim 3, Toru et al. (JP '019) disclose a hot rolled steel plate (strip)

further comprising 0.0003 to 0.003 mass percent calcium (0011).

In regards to claims 5 and 7, Toru et al. (JP '019) disclose a hot rolled steel plate (strip) further comprising 0.0003 to 0.0025 mass percent boron (0020). With respect to the compositional formula, it is well settled that there is no invention in the discovery of a general formula if it covers a composition described in the prior art, in re Cooper and Foley 1943 C.D. 357, 553 O.G. 177., 57 USPQ 117, Takalatwalla v. Marburg, 620 O.G. 685, 1949 C.D. 77, and In re Pilling, 403 O.G. 513, 44 F(2) 878, 1931 C.D. 75. In the absence of evidence to the contrary, the selection of the proportions of elements would appear to require no more than routine investigation by those of ordinary skill in the art. In re Austin, et al., 149 USPQ 685, 688. It would have been obvious to one of ordinary skill in the art to select alloys within the claimed compositional ranges from the compositional ranges disclosed by Toru et al. (JP '019) because Toru et al. (JP '019) teaches the same utility throughout the disclosed ranges.

In regards to claim 17, see the rejection of claim 1. With respect to the limitation that the steel would have a CTOD value of 0.25 mm or more in claim 17, the Examiner notes that CTOD is a measure of toughness. Toru et al. (JP '019) does not specify the CTOD value of the steel, but Toru et al. (JP '019) disclose that the steel would have a high toughness (0001), therefore the Examiner asserts that the steel of Toru et al. (JP '019) would inherently have the claimed CTOD value.

In regards to claim 19, Toru et al. (JP '019) disclose a hot rolled steel plate (strip) further comprising 0.0003 to 0.003 mass percent calcium (0011).

In regards to claims 21 and 23, Toru et al. (JP '019) disclose a hot rolled steel

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plate (strip) further comprising 0.0003 to 0.0025 mass percent boron (0020). With respect to the compositional formula, it is well settled that there is no invention in the discovery of a general formula if it covers a composition described in the prior art, in re Cooper and Foley 1943 C.D. 357, 553 O.G. 177., 57 USPQ 117, Takalatwalla v. Marburg, 620 O.G. 685, 1949 C.D. 77, and In re Pilling, 403 O.G. 513, 44 F(2) 878, 1931 C.D. 75. In the absence of evidence to the contrary, the selection of the proportions of elements would appear to require no more than routine investigation by those of ordinary skill in the art. In re Austin, et al., 149 USPQ 685, 688. It would have been obvious to one of ordinary skill in the art to select alloys within the claimed compositional ranges from the compositional ranges disclosed by Toru et al. (JP '019) because Toru et al. (JP '019) teaches the same utility throughout the disclosed ranges.

Claims 1, 3, 5, 7, 17, 19, 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizaki et al. (US 3,849,209)

In regards to claims 1, Ishizaki et al. ('209) disclose a hot rolled steel plate and strip having superior low temperature toughness and weldability as shown in the table below (col. 2, lines 20-60).

| Element | From Instant Claims (weight percent) | Ishizaki et al. ('209) (weight percent) | Overlapping value |
|---------|---|--|------------------------|
| C | about 0.005 – about 0.04 | 0.005 – 0.15 | 0.005 – 0.15 |
| Si | about 0.05 – about 0.30 | 0-0.60 | 0.05 – about 0.30 |
| Mn | about 0.50 – about 2.0 | 0.70-2.0 | 0.70-2.0 |
| Al | about 0.001 – about 0.10 | 0– 0.08 | about 0.001 – 0.08 |
| Nb | about 0.001 – about 0.1 | 0.01 – 0.15 | 0.01 – about 0.1 |
| V | about 0.001 – about 0.1 | 0 – 0.2 | about 0.001-about 0.1 |
| Ti | about 0.001 – about 0.1 | 0 – 0.2 | about 0.001– about 0.1 |

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| | | | |
|----|----------------|---------|----------------|
| Cu | 0 – about 0.50 | 0 – 1 | 0 – about 0.50 |
| Ni | 0 – about 0.50 | 0 – 1 | 0 – about 0.50 |
| Mo | 0 – about 0.50 | 0 | 0 |
| Fe | balance | balance | balance |

In regards to the limitation that the steel would be composed of bainitic ferrite of 95 percent by volume or more, Ishizaki et al. ('209) disclose wherein the steel would be comprised of uniform and very fine ferrite grains and with some upper bainite (col. 5, lines 12-15).

The Examiner also notes that the disclosed amounts of carbon, silicon; manganese, aluminum, niobium, vanadium, titanium, copper, nickel and molybdenum of the hot-rolled steel strip disclosed by Ishizaki et al. ('209) overlaps with the composition of the claimed invention. Therefore, a prima facie case of obviousness exists. See MPEP 2144.05 I.

With respect to the limitation that the steel would be “for a high strength electric resistance welding pipe”, the Examiner considers this a recitation of intended use which is not given patentable weight.

With respect to the limitation that the steel would have a yield strength of at least 560 MPa, Ishizaki et al. ('209) discloses wherein the finish temperature and number of reductions would be result-effective variables in achieving a desired yield point (See Table 2). It would have been obvious to one of ordinary skill in the art at the time the invention was to optimize the finish temperatures and/or number of reductions in order to achieve a desired yield point, as disclosed by Ishizaki et al. ('209). See MPEP 2144.05 II.

With respect to the limitations regarding phosphorus, sulfur and nitrogen, Ishizaki

et al. ('209) do not specify that it is necessary to contain any phosphorus, sulfur, or nitrogen in the steel. Therefore, the steel of Ishizaki et al. ('209) would inherently have the claimed amounts of phosphorus, sulfur, and nitrogen.

With respect to the compositional formula in claim 1, it is well settled that there is no invention in the discovery of a general formula if it covers a composition described in the prior art, *In re Cooper and Foley* 1943 C.D. 357, 553 O.G. 177., 57 USPQ 117, *Takalatwalla v. Marburg*, 620 O.G. 685, 1949 C.D. 77, and *In re Pilling*, 403 O.G. 513, 44 F(2) 878, 1931 C.D. 75. In the absence of evidence to the contrary, the selection of the proportions of elements would appear to require no more than routine investigation by those ordinary skilled in the art. *In re Austin, et al.*, 149 USPQ 685, 688. It would have been obvious to one of ordinary skill in the art to select alloys within the claimed compositional ranges from the compositional ranges disclosed by Ishizaki et al. ('209) because Ishizaki et al. ('209) teach the same utility throughout the disclosed ranges.

With respect to the claimed ratio of niobium, Ishizaki et al. ('209) disclose wherein one-third of the total added amount of niobium would precipitate (col. 3, lines 35-63).

With respect to the claimed limitation of coiling, Ishizaki et al. ('209) disclose coiling between 500-680°C in order to produce steel strips and plates that would have excellent strength and toughness (col. 12, lines 12-16).

In regards to claim 3, Ishizaki et al. ('209) do not specify that it is necessary to contain any calcium or rare earth metal in the steel. Therefore, the steel of Ishizaki et al. ('209) would inherently have the claimed amounts of calcium and rare earth metal.

In regards to claims 5 and 7, Ishizaki et al. ('209) disclose wherein less than 1 weight percent or less chromium would be added to the steel (col. 2, lines 36-60).

With respect to the compositional formulas in claims 5 and 7, it is well settled that there is no invention in the discovery of a general formula if it covers a composition described in the prior art, *In re Cooper and Foley* 1943 C.D. 357, 553 O.G. 177., 57 USPQ 117, *Takalatwalla v. Marburg*, 620 O.G. 685, 1949 C.D. 77, and *In re Pilling*, 403 O.G. 513, 44 F(2) 878, 1931 C.D. 75. In the absence of evidence to the contrary, the selection of the proportions of elements would appear to require no more than routine investigation by those ordinary skilled in the art. *In re Austin, et al.*, 149 USPQ 685, 688. It would have been obvious to one of ordinary skill in the art to select alloys within the claimed compositional ranges from the compositional ranges disclosed by Ishizaki et al. ('209) because Ishizaki et al. ('209) teach the same utility throughout the disclosed ranges.

In regards to claim 17, see the rejection of claim 1. With respect to the limitation that the steel would have a CTOD value of 0.25 mm or more in claim 17, the Examiner notes that CTOD is a measure of toughness. Ishizaki et al. ('209) does not specify the CTOD value of the steel, but Ishizaki et al. ('209) disclose that the steel would have a high toughness (col. 2, lines 20-60), therefore the Examiner asserts that the steel of Ishizaki et al. ('209) would inherently have the claimed CTOD value.

In regards to claim 19, Ishizaki et al. ('209) do not specify that it is necessary to contain any calcium or rare earth metal in the steel. Therefore, the steel of Ishizaki et al. ('209) would inherently have the claimed amounts of calcium and rare earth metal.

In regards to claims 21 and 23, Ishizaki et al. ('209) disclose wherein less than 1 weight percent or less chromium would be added to the steel (col. 2, lines 36-60).

With respect to the compositional formulas in claims 21 and 23, it is well settled that there is no invention in the discovery of a general formula if it covers a composition described in the prior art, In re Cooper and Foley 1943 C.D. 357, 553 O.G. 177., 57 USPQ 117, Takalatwalla v. Marburg, 620 O.G. 685, 1949 C.D. 77, and In re Pilling, 403 O.G. 513, 44 F(2) 878, 1931 C.D. 75. In the absence of evidence to the contrary, the selection of the proportions of elements would appear to require no more than routine investigation by those ordinary skilled in the art. In re Austin, et al., 149 USPQ 685, 688. It would have been obvious to one of ordinary skill in the art to select alloys within the claimed compositional ranges from the compositional ranges disclosed by Ishizaki et al. ('209) because Ishizaki et al. ('209) teach the same utility throughout the disclosed ranges.

Response to Arguments

Applicant's arguments with respect to claims 1, 3, 5, 7, 17, 19, 21 and 23 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jessee Roe whose telephone number is (571) 272-5938. The examiner can normally be reached on Monday-Friday 7:30 AM - 4:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JR


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